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(54) **PHOTOREFRACTION OCULAR SCREENING
DEVICE AND METHODS**

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See application file for complete search history.

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(57) **ABSTRACT**

A photorefraction ocular screening device for assessing vision and corresponding disorders associated with the human ocular system is provided. More specifically, the present invention provides for a photorefraction ocular screening device employing advanced methods of pupil detection and refractive error analysis. The photorefraction ocular screening device is comprised of an LED arrangement configured with a plurality of irradiation sources serving as visual stimuli, wherein the visual stimuli may be presented in varying illumination patterns to the pupils of an examinee for expanding the range of ocular responses that can be used to determine refractive error.

13 Claims, 25 Drawing Sheets

